

B, 1. (Amended) A method for preparing a sintered structural steel part with a carbon content of well over about 0.1% by weight, comprising:

pressing an agglomerated spherical soft iron-based powder comprising at least 0.5% by weight of a thermo-reversible hydrocolloid as a binder to a green body of high density,

heating the green body to a temperature of about 450-650°C under a controlled atmosphere to remove the non-carbon content of the binder, and

then sintering the green body at a temperature of about 1100-1400°C to allow the remaining carbon to diffuse homogeneously into the sintered body, giving structural parts of high density and having high strength properties.

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Please add the following new claims.

B, 7. (New) The method according to claim 1, wherein said method prepares a sintered structural steel part with a carbon content of more than about 0.4% by weight.

8. (New) The method according to claim 1, wherein said method prepares a sintered structural steel part with a carbon content of more than about 0.5% by weight.

9. (New) The method according to claim 1, wherein said method prepares a sintered structural steel part with a carbon content of more than about 0.145% by weight.

10. (New) The method according to claim 1, wherein said method prepares a sintered structural steel part with a carbon content of about 0.4% to 2% by weight.

11. (New) The method according to claim 3, wherein said method prepares a sintered structural steel part with a carbon content of more than about 0.145% by weight.

12. (New) The method according to claim 3, wherein said method prepares a sintered structural steel part with a carbon content of about 0.4% to 2% by weight.

13. (New) A method for making a high strength steel part from a soft iron-based powder, comprising:

mixing a soft iron-based powder with a thermo-reversible hydrocolloid binder into an agglomerated powder, said hydrocolloid binder acting as a means to add carbon to the powder,

pressing said agglomerated powder to a green body,

heating the green body to a temperature of about 450-650°C

under a protective atmosphere that prevents oxidation to remove the non-carbon content of the binder substantially, and

sintering the green body at a temperature of about 1100-1400°C to create a structural part of high strength.

14. (New) The method according to claim 13, wherein said protective atmosphere enables removal of the non-carbon content substantially without removal of the carbon content.

15. (New) The method according to claim 14, wherein said method prepares a steel part with a carbon content of more than about 0.4% by weight.

16. (New) The method according to claim 14, wherein said method prepares a steel part with a carbon content of more than about 0.5% by weight.

17. (New) The method according to claim 14, wherein said method prepares a steel part with a carbon content of more than about 0.145% by weight.

18. (New) The method according to claim 1, wherein said method prepares a steel part with a carbon content of about 0.4% to 2% by weight.

19. (New) A method for making a high strength steel part by simple pressing and sintering of metal powder, comprising:

mixing an agglomerated powder having a soft iron-based powder and a binder that acts as a means to add carbon to the powder,

pressing said agglomerated powder to a green body,

heating the green body under a protective atmosphere that prevents oxidation to remove the non-carbon content of the binder substantially without removal of carbon content, and

sintering the green body to create a structural part of high strength.

20. (New) The method according to claim 19, wherein said method prepares a steel part with a carbon content of about .4% to 2% by weight.

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